



# *Junior FIRST* **LEGO League**

## **Linda Whipker**

Former FLL Research Coach  
Current FRC Coach  
And Rookie JrFLL Coach

## **Sponsored by:**

FRC Team PyroTech  
Wake Robotics, Inc.

## **Fiona Last-Powell**

Current FLL Coach  
FRC Non-Engineering Mentor



*FIRST*

For Inspiration and Recognition of Science and Technology

*"To transform our culture by creating a world where science and technology are celebrated and where young people dream of becoming science and technology leaders."*

**Dean Kamen, Founder**

- Gracious Professionalism™
- Coopertition™
- Teamwork
- Science and technology

**Overall Values of *FIRST***

Age

6 7 8 9 || 9 10 11 12 13 14 || 14 15 16 17 18

Junior *FIRST*®  
LEGO® League



*FIRST*® LEGO®  
League



*FIRST*® Tech  
Challenge

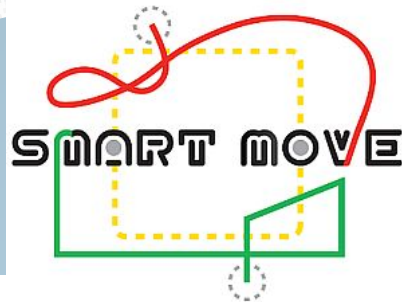


*FIRST*®  
Robotics  
Competition



*FIRST* Programs





# Themes in JrFLL and FLL

127 teams in 2004 with "No Limits" to 12,000 teams expected from 5 countries this year



# FLL 2011: Food Factor

"Keeping food safe"



## Keeping Food Safe

Can Junior FIRST LEGO League teams master the science of safely preparing food? In the 2011 Snack Attack Challenge, over 12,000 6 to 9 year olds from 5 countries will take a "hands on" approach to the topic of food safety by exploring how proper preparation and storage can help keep us healthy. Teams will learn about simple machines as they build a model made of LEGO® elements with a motorized moving part, and will create a team Show-Me Poster to represent their Snack Attack findings .

JrFLL



- 2 to 6 students
- 6ish to 9 years old
  - 9 or under on January 1, 2011
- Non-competitive
  - "Show me" display board
  - LEGO model with moving parts

JrFLL



Time	What
Aug 1 through Spring	Team Registration ( <a href="http://usfirst.org">http://usfirst.org</a> )
Find some friends	Check similar goals and time availability
Meet	6 to ?? times before exhibiting 1 1/2 hour each ??
<u>Exhibit options</u>	
•Nov 12, 2011 •Nov 19, 2011	FLL Regional at SE Raleigh High School
•Feb 4, 2012	Cary Homeschoolers/Dayspring Science Fair

## 2011-12 Schedule

- Minimum cost
  - \$25 to register a team (<http://usfirst.org>)
- Typical additional costs for teams
  - Matching tshirts and accessories/bling
  - Display board and decorations
  - Snacks

**Cost**

# JrFLL Base Kit: \$149.95

(recommended but not required – from USFIRST  
– 1 per registered team)

Kit includes:

- LEGO® Bricks Set (884 pieces)
- LEGO Technology Resources Set (1,110 pieces)
- LEGO Power Functions Battery Pack
- LEGO Power Functions Motor
- LEGO XL Base Plate
- 6 LEGO SERIOUS® Play™ mini-kits with one set of activity cards (57 pieces in each mini-kit )

**Optional  
Costs**



# JrFLL Base Kit Plus with Resource Set: \$215.95

(early programming, sensors, interactive models)

Kit includes:

LEGO Education WeDo™ Construction Set  
(150+ pieces)

- LEGO Education WeDo™ Resource Set  
(325 pieces)

- LEGO Education WeDo™ Robotics Software - Team License

- LEGO Education WeDo™ Activity Pack Team License

## Optional Costs for Older Teams







JrFLL in Practice

- We are a team
- We do the work
- We share our experiences and discoveries with others
- We are helpful, kind and show respect when we work, play and share. We call this "Gracious Professionalism"
- We are all winners
- We have fun

**JrFLL Core Values**

- Kids come first
- Kids do the work
  - Adults can help find the answers but can't give them the answers or make decisions
- I will encourage my team members/other coaches/volunteers/team supporters to practice JrFLL values

**Coach's Promise**

- Implementation and logistics of the team is very individual
  - This is typical of the *FIRST* organization as a whole
- Use it as:
  - An “extra curricular” club
  - A team activity
  - A social, fun time
  - A science enrichment activity
  - A home school science curriculum

**JrFLL is Customizable**



What Do You Actually Do?



- Plan a 2 hour time period once a week
- Split the time between:
  - Team building activities
  - Talking/putting together research about snacks
  - Building with LEGO's
  - Having fun
- Do some field trips about snacks
  
- Coach's Handbook has outlines of classes

## **Team Meetings**

## Week 1

15 min	Snack	Allow children to have a snack, especially if this is an afterschool activity. This will give you a chance to bring all the kids together and go over the plan for the day. You may wish to include snack items in your team budget, create a schedule for team families to supply snacks, or ask each team member to bring their own snack each week. You might want to show all or part of one of the online video resources during snack time.
10 min	Icebreaker Team building	Play icebreaker, name, or team building games. Brainstorm a team name and logo.
25 min	Challenge introduction	Introduce the SNACK ATTACK topic. Read the Challenge and let the team know their mission for the season. Brainstorm a list of all the snacks the team likes to eat. Next talk about the ingredients it takes to make each snack. Record the list on butcher-block paper, a chalkboard, a flip chart, or a whiteboard so everyone can see. Be sure to capture at least one item from each child on the team.
25 min	Explore parts	Allow kids to play and explore the base kit or similar collection of LEGO parts. Don't worry if they are not building anything related to the topic. Some children may never have used LEGO pieces before and will need time to get a sense of how to use them. Remember, this is meant to be FUN!
15 min	Recap and clean-up	Clean up, put away materials, recap the day's activities, and remind the children to begin thinking about a snack they would like to learn more about together as a team over the next 6 weeks.

- Finalize team name/logo
- Review snacks and choose one to research further – start research (library, field trips, etc.)
- Have each person build a model with a moving piece (a fun piece – not necessarily “The Model”)

**Week 2**

- Talk about all the ingredients of the snack, how to make it safely, where is it made or sold, who eats it, who prepares it?
- Each team member takes a research task to do with parents at home
- Brainstorm things to build for “the model”
  - then experiment with pieces
    - Reminder: 1 model!

**Week 3**



What are they really learning?



- How to work as a team
- How to listen to each other
- How to share LEGO's
- How to come up with 1 display board and 1 model for the group
- How to talk to people about a project they worked on with others

**Skills for 6ish to 9 year olds**

- You know your kids
  - What challenges you are working through with them
  - How much time can they spend on task and with others
- Talk with other parents
  - Any snack OK?
  - Any typical “coop” issues?
  - How much to meet?
  - How much work will you do outside of the group?
  - How are you going to split the costs?

**Use it how it works for you**



Questions?